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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 09/755,498 | 01/05/2001 | Michael Yip | 2717P030 | 5235 |

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EXAMINER

WON, MICHAEL YOUNG

| ART UNIT | PAPER NUMBER |
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2155

DATE MAILED: 07/27/2004

27

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/755,498

Applicant(s)

YIP, MICHAEL

Examiner

Michael Y Won

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 June 2004.
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 1-24 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. Claims 1-24 have been re-examined and are pending with this action.
2. In view of the Appeal Brief filed on June 8, 2004, PROSECUTION IS HEREBY REOPENED.

To avoid abandonment of the application, appellant must exercise one of the following two options:

- (1) file a reply under 37 CFR 1.111 (if this Office action is non-final) or a reply under 37 CFR 1.113 (if this Office action is final); or,
- (2) request reinstatement of the appeal.

If reinstatement of the appeal is requested, such request must be accompanied by a supplemental appeal brief, but no new amendments, affidavits (37 CFR 1.130, 1.131 or 1.132) or other evidence are permitted. See 37 CFR 1.193(b)(2).

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 1, 12, 18, and 20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The element of "a metropolitan area network (MAN)" does not serve a functional purpose. The system would function the same regardless of the existence of a MAN.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over McCloghrie et al. (US 6,035,105 A) in view of Hilla et al. (US 6,226,771 B1).

INDEPENDENT:

As per claims 1, 12, and 18, Belser teaches a system, a method, and an article of manufacture comprising: a machine accessible medium including content (see col.4, lines 53-61); a first virtual local area network (VLAN) and a second VLAN (see col.1, lines 31-35 and col.2, lines 59-60: "multiple VLAN" or "plurality of VLANs"), wherein the second VLAN comprises the first VLAN (see FIG.1); and a switch (see col.2, lines 44-49)

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coupled to the first and second VLANs to receive from the first VLAN a data packet having a first VLAN ID associated with the first VLAN, to replace the first VLAN ID with a second VLAN ID associated with the second VLAN (see col.1, lines 59-65 and col.3, lines 7-14), wherein the second VLAN ID is different from the first VLAN ID (inherent), and to forward the modified data packet from the first VLAN (see col.2, lines 43-46).

McCloghrie does not explicitly teach of a system comprising a metropolitan area network (MAN) that is coupled to a switch, and that modified data packet is forwarded to the MAN. Hilla teaches of a MAN that is coupled to a switch (see col.1, lines 24-35), and that modified data packet is forwarded to the MAN (implicit). It would have been obvious to a person of ordinary skill in the art at the time the invention was made to employ the teachings of Hilla within the system of McCloghrie by implementing a MAN coupled via a switch within the multiple VLAN aggregate system of Belser because connection of one network to another is a matter of preference of a specific need rather than an invention and thus subjective. Furthermore, McCloghrie teaches that a set of devices may be connected to a plurality of physical networks (see col.2, lines 34-35) and that each switch may be coupled to a plurality of networks (see col.2, lines 46-49).

As per claim 20, McCloghrie teaches of a switch (see col.2, lines 44-49) comprising: a port (see col.3, lines 53-55) for receiving a data packet from a first virtual local area network (VLAN) (see col.1, lines 56-58; col.3, lines 8-11; and col.4, lines 26-28); an assigner (inherent) to assign a first VLAN ID to the data packet that identifies the first VLAN (see col.3, lines 7-23 and col.4, lines 26-52); a verifier (inherent) to verify

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that the assigned first VLAN ID matches a value stored in a memory of the switch (see col.4, line 62 to col.5, line 29); a controller to control the processing of the verified data packet (see col.4, lines 53-61) and to replace the verified first VLAN ID with a second VLAN ID that identifies a second VLAN (see col.1, lines 56-65 and col.3, lines 7-14); and a forwarder to forward the modified data packet (see col.2, lines 43-49 and col.3, lines 24-29).

McCloghrie does not explicitly teach of a system comprising a metropolitan area network (MAN) that is coupled to a switch, and that modified data packet is forwarded to the MAN. Hilla teaches of a MAN that is coupled to a switch (see col.1, lines 24-35), and that modified data packet is forwarded to the MAN (implicit). It would have been obvious to a person of ordinary skill in the art at the time the invention was made to employ the teachings of Hilla within the system of McCloghrie by implementing a MAN coupled via a switch within the multiple VLAN aggregate system of Belser because connection of one network to another is a matter of preference of a specific need rather than an invention and thus subjective. Furthermore, McCloghrie teaches that a set of devices may be connected to a plurality of physical networks (see col.2, lines 34-35) and that each switch may be coupled to a plurality of networks (see col.2, lines 46-49).

DEPENDENT:

As per claims 2, 16, and 23, McCloghrie further teaches wherein the second VLAN further comprises a third VLAN (see FIG.1; col.1, lines 31-35; and col.2, lines 59-60), and wherein the preventer of the switch further prevents the modified data packet

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from the first VLAN from being forwarded to the third VLAN (see col.1, lines 4-11 and col.5, lines 49-51).

As per claims 3, 4, and 17, McCloghrie further teaches wherein the switch maintains a forwarding data base (FDB) for the first, second, and third VLANs (see col.4, lines 62-65), wherein each FDB contains one or more media access control (MAC) address entries (see col.col.3, lines 15-53 and col.4, lines 33-40), and adding a new MAC address entry to the FDB for each of the first, second, and third VLANs when a new MAC address is learned from the first, second, or third VLAN (see 10, lines 33-37).

As per claims 5, 13, and 19, McCloghrie further teaches wherein the switch further to receive from the MAN (see claim 1 rejection above) a second data packet having the second VLAN ID, to replace the second VLAN ID with the first VLAN ID, and to forward the modified second data packet from the MAN to the first VLAN (see col.1, lines 56-65 and col.3, lines 7-32).

As per claims 6, 8, 14, and 22 McCloghrie further teaches wherein the first and second VLAN ID is obtained from a header encapsulating the data packet by an assigner (see col.3, lines 7-14).

As per claims 7 and 9, McCloghrie further teaches wherein the header encapsulating the data packet is an Institute of Electrical and Electronics Engineers (IEEE) 802.1 Q frame tag (see col.2, line 66 to col.3, line 6).

As per claims 10, 11, and 15, McCloghrie further teaches wherein the first and second VLAN ID is obtained from an internal value stored in the switch (see col.4, line 62 to col.5, line 29).

As per claim 24, Gleeson teaches of further comprising: a second port (see FIG.2 and col.4, lines 1-52) for receiving a second data packet from the second VLAN, and wherein the assigner to assign the second VLAN ID to the second data packet that identifies the second VLAN, the verifier to verify that the assigned second VLAN ID matches a second value in the memory of the switch, the controlling to replace the verified second VLAN ID with the first VLAN ID that identifies the first VLAN, and the forwarder to forward the modified second data packet to the first VLAN (see claim 20 rejection above: regardless of which VLAN is performing the sending and which VLAN is receiving, the data packet is modified with "appropriate change in the VLAN identifier for the frame or packet").

5. Claims 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over McCloghrie et al. (US 6,035,105 A) and Hilla et al. (US 6,226,771 B1), and further in view of Ekstrom et al. (US 5,968,126 A).

As per claim 21, McCloghrie and Hilla do not explicitly teach wherein the assigner further identifies the second VLAN based on the contents of the data packet's source Internet Protocol (IP) address. Ekstrom teaches wherein the assigner identifies VLAN based on contents of the data packet's source Internet Protocol (IP) address (see

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col.12, lines 55-59). It would have been obvious to a person of ordinary skill in the art at the time the invention was made to employ the teachings of Ekstrom within the system of McCloghrie and Hilla by implementing identifying VLANs based on contents of the data packet's source Internet Protocol (IP) address within the switch because McCloghrie teaches that LAN-switches forward packets using level three protocol (network layer) which is known in the art that IP addresses are level three addresses.

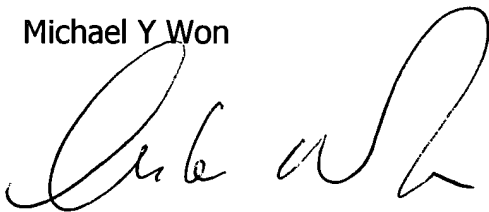
6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael Y Won whose telephone number is 703-605-4241. The examiner can normally be reached on M-Th: 6AM-3PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hosain T Alam can be reached on 703-308-6662. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Michael Y Won



July 20, 2004


HOSAIN ALAM
SUPERVISORY PATENT EXAMINER